MECHANISM FOR PROVIDING OVER-VOLTAGE PROTECTION DURING POWER UP OF DC-DC CONVERTER

ABSTRACT

An over-voltage protection circuit prevents an anomaly, such as a short circuit in the upper-switched electronic device of a DC-DC power supply, from propagating to downstream circuitry. The over-voltage protection circuit, which includes an overvoltage sense resistor coupled between an output of the upper or high side FET and the gate of the lower FET, is operative to sense a short circuit fault condition in the circuit path through the upper FET during initial power up of the system. In response to this condition, the lower NFET device is turned on so as to provide an immediate by-pass of the overvoltage condition to ground, and thereby prevent excessive voltage from being applied by the output terminal to downstream powered circuitry.